

WE CLAIM:

- 1 1. A method for allocating a resource among subscribers in a system
2 having a first stage and a second stage, the method comprising the steps of:
3 determining an available capacity in the second stage;
4 queuing arriving subscribers bidding for an allocation of the
5 resource in the first stage;
6 periodically admitting at least a portion of the arriving subscribers
7 into the second stage based on respective bid amounts and second stage resource
8 availability;
9 determining a spot price of the resource based on at least one
10 arrival subscriber not admitted;
11 offering admitted subscribers a reservation, having a reservation
12 fee, to secure a future allocation of the resource at a given bid price, subscribers accepting
13 the reservation fee being admitted as reserved subscribers, those rejecting the reservation
14 fee being admitted as non-reserved subscribers;
15 displacing non-reserved subscribers whose bid prices are below the
16 spot price; and
17 activating a reservation of a reserved subscriber whose bid price is
18 below the spot price.

1 2. The method for allocating a resource among subscribers as defined
2 by Claim 1, wherein the reservation fee is calculated based on the bid price and a
3 requested duration of the reservation.

1 3. The method for allocating a resource among subscribers as defined
2 by Claim 2, wherein the reservation fee is inversely proportional to the bid price and
3 directly proportional to the requested duration of the reservation.

1 4. The method for allocating a resource among subscribers as defined
2 by Claim 2, wherein after a reservation is activated, the subscriber is displaced upon
3 expiration of the duration of the reservation.

1 5. The method for allocating a resource among subscribers as defined
2 by Claim 1, wherein the spot price of the resource is the highest bid price of the at least
3 one arrival subscriber not admitted.

1 6. The method for allocating a resource among subscribers as defined
2 by Claim 1, wherein the availability of the resource in the second stage is defined as the
3 total quantity of the resource in the second stage less a reserved quantity of the resource
4 in the second stage.

1 7. The method for allocating a resource among subscribers as defined
 2 by Claim 1, wherein the resource is communication lines in a computer network access
 3 system and where the first and second stage each contain a discrete number of
 4 communications lines.

1 *Sub*
 C1 8. A network computer server system for controlling a plurality of
 2 network access lines to provide subscriber access to a computer network, the server
 3 system comprising:
 4 an access line interface for partitioning the plurality of network
 5 access lines as first stage lines and second stage lines;
 6 a processor operatively coupled to the access line interface, the
 7 processor:
 8 determining an available number of second stage lines;
 9 queuing arriving subscribers bidding for network access in
 10 the first stage lines and periodically admitting at least a portion of the arriving subscribers
 11 into the second stage lines based on respective bid amounts and the availability of second
 12 stage lines;
 13 determining a spot price of the resource based on at least
 14 one arrival subscriber not admitted;
 15 determining a reservation fee for secured access to the
 16 network for the admitted subscribers to secure future network access at a given bid price;

17 determining whether a subscriber has accepted the
 18 reservation fee and controlling the access line interface to operatively couple that
 19 subscriber to the network via a second stage line as a reserved subscriber;
 20 determining whether a subscriber has rejected the
 21 reservation fee and controlling the access line interface to operatively coupled that
 22 subscriber to the network via a second stage line as an unreserved subscriber;
 23 controlling the access line interface to disconnect from the
 24 network non-reserved subscribers whose bid prices are below the spot price; and
 25 activating a reservation of reserved subscribers whose bid
 26 price is below the spot price, and controlling the access line interface to maintain network
 27 access for the reserved subscriber for a duration of the reservation; and
 28 a memory device operatively coupled to the processor, the memory
 29 device for storing a database of subscriber account data.

1 9. The network computer server system as defined by claim 8,
 2 wherein the processor calculates the reservation fee on the bid amount and a requested
 3 duration of the reservation.

1 10. The network computer server system as defined by claim 8,
 2 wherein the reservation fee is inversely proportional to the bid price and directly
 3 proportional to the requested duration of the reservation.

1 11. The network computer server system as defined by claim 8,
2 wherein processor sets the spot price to the highest bid price of the at least one arrival
3 subscriber not admitted.

1 12. The network computer server system as defined by claim 8,
2 wherein the processor calculates the available number of lines in the second stage as a
3 total number of lines in the second stage less the number of reserved subscribers admitted
4 in the second stage.

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